PROJECT MANAGEMENT PLAN

(PMP) FOR THE

PORT AND WATERWAYS SAFETY SYSTEM

(PAWSS) PROJECT

Prepared/Submitted by: _____ _____
Date Project Manager (G-AVT)

Endorsed by: _____ _____
Date Project Director
Commandant (G-A)

Approved by: _____ _____
Date Chief of Staff (G-CCS)

PAWSS Project Management Plan

EXECUTIVE SUMMARY

The Ports and Waterways Safety System (PAWSS) project will provide Vessel Traffic Services (VTS) to facilitate the safe and efficient transit of vessel traffic, prevent collisions, rammings, groundings, and environmental damage associated with these accidents. This Project Management Plan (PMP) provides the management framework, organizational structure, and task responsibilities required to execute the PAWSS project.

The FY 97 DOT and Related Agencies Appropriations Act and Conference Report (ACT) initiated the PAWSS project by ending VTS 2000 project and requiring an implementation plan for Vessel Traffic Services (VTS) be submitted to Congress by the end of FY97. The FY98 budget request of $5.5 million will provide funds to test the AIS concept and install the essential elements of a VTS in New Orleans, LA. Future year cost estimates will be developed based on needs identified through outreach in new ports as well as those with existing VTS's. By KDP 4, we expect the sponsor's representative, (G-MOV) will complete discussion with port stakeholders in all potential ports. As the local support and funding of additional ports are identified, they will be added to the PAWSS program.

The Project Manager is empowered and accountable by the charter to "meet performance, schedule, and cost objectives" for the PAWSS project. The PM manages the project activity through a matrix organization. The matrix organization consists of Headquarters offices and/or divisions and field organizations designated to provide technical guidance and support for project task completion.

The PAWSS Project will also be supported by Integrated Product Teams (IPTs); The Integrated Logistics Support Management Team (ILSMT), The Test Management Oversight Team (TMOT), the Configuration Control Board (CCB), Site Acquisition Teams (SATS) and the Risk Management Steering Group. These teams are composed of matrix members, the System Engineer and the System Integration Contractor after award.

All activities have been scheduled through the Full Scale Development Phase as well as task assignments for all matrix members. Key Events begin with a solicitation for a Systems Integration Contractor in 1QFY98 and carry through Initial Operating Capability in FY 2000.

CHAPTER 1. INTRODUCTION.

A. Scope.

1. The Ports and Waterways Safety System (PAWSS) project is a program to provide Vessel Traffic Services (VTS) to facilitate the safe and efficient transit of vessel traffic to prevent collisions, rammings, groundings, and environmental damage associated with these accidents. The project is a Department of Transportation (DOT), Level I major acquisition due to the budget risks and political interests associated with this project. It is managed under the general guidance provided in the Office of Management and Budget Circular A-109, and the Systems Acquisition Manual (SAM) COMDTINST M4150.2 (series).

2. This Project Management Plan (PMP) provides the management framework, organizational structure, and task responsibilities required to execute the PAWSS project. The PMP will be updated before each Key Decision Point (KDP). Through the updating process, the PMP will document project activity in each acquisition phase and organize project effort for succeeding phases.

3. The PMP supplements major acquisition planning documents by focusing on the project management process and tasks needed to execute the project. Information contained in the Mission Needs Statement (MNS), Operational Requirements Document (ORD), and Acquisition Plan (AP) is not repeated in this PMP except where summarized information provides ease of access or ready reference.

4. The PMP serves as a general management scheme for the project. Sub-plans will be issued under the framework provided in this PMP for technical and functional areas requiring specific guidance. Sub-plans include the Integrated Logistics Support Plan (ILSP), Configuration Management Plan (CMP), and Test and Evaluation Master Plan (TEMP). Sub-plan development is the responsibility of the Project Manager (PM) and is discussed in detail in later chapters.

5. The PMP is written and maintained by the Project Manager (G-AVT) with inputs from all matrix members. Acronyms are listed in Appendix (a). References are listed in Appendix (b).

B. Background.

1. The FY 97 DOT and Related Agencies Appropriations Act and Conference Report (Act) initiated the PAWSS program and required an implementation plan for Vessel Traffic Services (VTS) be submitted to Congress by the end of FY97. The intent of the project is to engage more local port stakeholder involvement and encourage partnerships and other alternative funding. The Act further directed that an open system approach be used that maximizes the use of off-the-shelf technology.

2. In compliance with the Act, on 26 October 1996, the three Phase I System Integration Contracts were allowed to lapse ending VTS 2000. The project was reset

as the Ports and Waterways Safety System (PAWSS) project in a memorandum from the Vice-Commandant to the Deputy Secretary (COMDT(G-AVT) memo 16630 dated 22 January 1997). The new project name emphasizes that VTS's are an important tool in waterway management and the Coast Guard received its authority and responsibility to provide Vessel Traffic Services as part of the Ports and Waterways Safety Act.

3. In January 1997, the Coast Guard commenced consultation with maritime organizations, port authorities and other interested stakeholders on a national level and in New Orleans (Lower Mississippi River Waterways Safety Advisory Committee - LMRWSAC), to identify requirements for VTS systems. This dual approach to seeking stakeholder input for VTS requirements is consistent with the recommendations of the Marine Board Interim Report of June 1996 as well as the U.S. General Accounting Office (GAO) Report of April 1996. In April 1997, the Coast Guard considered industry and stakeholder views on the data and functions needed in a VTS and factors to be considered in identifying ports requiring a VTS system. Coast Guard consideration of all views has been adapted into the VTS requirements.

4. Market surveys were conducted during the time the dialogue was taking place to gain an understanding of VTS capabilities that currently exist in the marketplace. The first event was a VTS Technology Symposium held in February 1997 in Crystal City, VA. The second was at the Radio Technical Commission for Maritime Services (RTCM) Conference in April 1997 at St. Petersburg, FL. Both were attended by vendors representing the full range of VTS services and technologies, as well as system integrators with VTS experience.

5. PAWSS project cost estimates to meet these requirements were developed using the costs provided in the proposals of the Phase I System Integration Contracts for VTS 2000, Department of Defense Planning Guidance and an industry software cost model - Price S, as well as input on costs for recently installed systems.

6. The first port identified for PAWSS program implementation is New Orleans, LA. New Orleans was selected because it ranked first in the Coast Guard's Port Needs Study. Additional ports needing a VTS system will be identified through dialogue with local representatives. The Coast Guard will also dialogue with local officials in ports with existing VTS systems to determine the need and scope for their continued operation. The need for a VTS, as well as the contributions of both the federal government, and the local stakeholders will form the basis for working partnerships in each port. The extent of new ports needing a VTS system, as well as the need to retrofit existing VTS systems, will be identified at KDP 4.

7. An Incremental Build strategy with emphasis on technology insertion was chosen as the risk management approach. It emphasizes incremental fielding of the COTS system and any needed software modifications to reduce time to deliver new functionality to the user, while not sacrificing quality or incurring unreasonable program

risk or cost. It is a process of continually evolving a stable baseline to take advantage of new technologies as they mature and to introduce new capabilities in a cost affective manner. The installed system will have a flexible, modular structure that includes provisions for functional evolution as operational and support requirements are further defined by the maritime community, government entities and public stakeholders and allows for ease of hardware and software upgrades

8. VTS 2000 was chartered as a Level 1 Major Systems Acquisition Project on 09 Jan 92. Several of the early milestones of that project are still applicable to the PAWSS project and include:

- Key Decision Point (KDP) 1 JUL 92
- MNS Approved JUL 92
- AP Approved for VTS2000 MAR 93
- Preliminary ORD (PORD) Complete APR 94
- KDP 2 JUN 94

A Concept and Requirements Team, consisting of 20 representatives from the maritime industry, the Coast Guard, and other Government agencies produced an Operational Concept Document (OCD) in 1993. This provided a VTS vision. The OCD was the basis for the PORD, the Requirements Analysis (RA), and the Analysis of Alternatives (AA). The RA and AA were requirements under the Federal Information Resources Management Regulation that was canceled by the Information Technology Management Reform Act of 1996.

C. Current Status

1. The PAWSS Project has completed Phase 1 (Concept Exploration) activities including the preparation of all required acquisition planning documents for KDP 2/3.

2. System Demonstrations by prospective PAWSS vendors were held to identify those companies who have an installed, commercially available system. The Request For Proposals (RFP) has been published in a draft form. The final RFP is ready to be advertised in FY98 upon receipt of an appropriation.

3. The PAWSS Project entered full-scale Development phase of the acquisition life cycle in Oct 1997. The Acquisition Project Baseline was also approved on 12 Sept 1997. KDP 4 is anticipated during FY 2000.

CHAPTER 2. PROJECT PLANNING

A. Acquisition Strategy Objectives.

The goal of the PAWSS project is to develop and implement state-of-the-market vessel traffic services (VTS) management system in selected ports and waterways. The project has established five acquisition strategy objectives to achieve this goal:

(1) The VTS system will be established in ports based on needs and local stakeholder support.

(2) The VTS system will exchange information with other Coast Guard, Government, and commercial information systems.

(3) The VTS system will have an open architecture/open system design that will be scaleable and have the flexibility for incremental deployment, enhancements, changes, and technology insertion over the life of the system.

(4) The VTS system will be used to retrofit existing Vessel Traffic Service ports to provide a single system to support with consistent operational procedures for the mariner.

(5) The VTS system will have enhanced logistics support through commonality of software, hardware, and equipment.

The plan for achieving the acquisition strategy goals and objectives is outlined in the PAWSS Acquisition Plan, and centers on using an "Incremental Build" approach. This includes building, testing, and implementing the system one step at a time, thus, growing the system to maturity over the life of the project. This approach can be described as a “rolling boundary” or incremental deployment of a VTS in segments approach. You roll to the next segment after successfully testing the operation, obtain acceptance by the port stakeholders and obtain budget authority to proceed.

B. Key Events.

During the Full Scale Development phase between KDP 3 and KDP 4, the PAWSS project will select one vendor for design, integration, testing, and installation of the first VTS System in New Orleans. Upon successful completion of Operational Test and Evaluation (OT&E), Transportation Systems Acquisition Review Council (TSARC) approval will be sought at KDP 4 to install VTS systems in other U.S. ports. The major activities to be performed during the Full Scale Development Phase and their schedule includes:

KDP 2/3	4QFY97

Release RFP for System Integration Contractor (SIC) 1QFY98	
Release RFP for Transponders	1QFY98
Communication Coverage Update	1QFY98
Award SIC contract	3QFY98
Begin Installation of System and Automated Identification System (AIS) Testing	4QFY98
Design/Construction-Facilities	4QFY98
Begin Installation of System in Vessel Traffic Center (VTC)	2QFY99
Begin Installation of Remaining Sensors	3QFY99
System Improvement Phase I	3QFY99
DT&E/System Acceptance	4QFY99
OT&E	4QFY99
Initial Operating Capability (IOC)	1QFY00
Complete Port Discussions	1QFY00
KDP 4	2QFY00
Environmental Planning	FY01

A description of the Key Events is as follows:

1. **System Installation and AIS Testing**. The VTS SIC will install their system architecture at Gretna Light in New Orleans including integration of radar sensors. The system will be tested for technical acceptance (limited DT) to assure it meets the contract requirements. Following acceptance, we will test the system's ability to accommodate a large number of AIS contacts (up to 100) in ship-to-shore and ship-to-ship information exchange and to gather data to assist the Program Sponsor to determine staffing standards for this new mode of AIS watchstanding. In order to complete this testing, the Coast Guard will upgrade the Very High Frequency (VHF) communications along the river to Digital Selective Calling (DSC) with AIS or DSC/AIS. We plan to lease this capability from a private contractor. The Coast Guard will also acquire up to 100 transponders to place onboard vessels to perform the AIS tests.

2. **Design/Construction of Facilities**. Based on their system architecture, the SIC will design a layout for the Vessel Traffic Center (VTC) as well as any facility modifications needed at Gretna and Governor Nichols lights. Construction of the buildout of the VTC is expected to be completed by the building owner. The SIC would be responsible for any facility modifications at the Traffic Lights.

3. **Installation Of The System In The VTC**. Following build-out of the VTC by the building owner and acceptance testing of their system, the SIC will install their suite of equipment to provide all the essential elements of the VTS system to meet the Coast Guard's requirements. They will upgrade the radars at Gretna and Governor Nichols Lights, test the equipment, and turn the system over to the Coast Guard.

4. **Installation Of Remaining Sensors**. The SIC will design the installation, complete any construction necessary and install all equipment for additional sensors to provide surveillance of critical areas on the river. Upon installation, they will be integrated into the system in the VTC and turned over to the Coast Guard for acceptance.

5. **System Improvement Phase I**. Based on the results of the AIS testing, the SIC will proceed with the first incremental improvement to their system.

6. **Developmental Testing and Evaluation (DT&E)/System Acceptance**. The SIC will complete limited DT&E on the integration of their Commercial Off-The-Shelf(COTS) system for acceptance. This will begin with the system installation in Gretna Light, followed by installation in the VTC in FY99. This will be followed by the integration of the remaining sensors along the river as well as the system improvement developments in FY99/00.

7. **Operational Testing And Evaluation (OT&E)**. OT&E will begin after the initial installation of the SIC's system in the VTC. The VTC configuration will have all the essential elements necessary to test the capabilities of the system to determine acceptance for use in other ports. The testing will be a joint effort of the Program Sponsor's organization and local port representatives.

8. **Initial Operating Capability (IOC)**. After 4 to 6 months of operations including OT&E, the system will achieve IOC.

9. **Complete Port Discussions**. The Program Sponsor will complete discussions with local port stakeholders in prospective new VTS ports as well as those in ports with an existing VTS. This will form the basis for partnerships in each port and of which ports are to receive a PAWSS based VTS.

10. **Environmental Planning.** Planning to anticipate, account for and document the potential environmental benefits of the VTS system and the potential costs of environmental compliance requirements will be performed as the PAWSS project is expanded beyond the New Orleans area to other ports. This will begin as additional ports are identified and extend into the Production and Deployment Phase. The environmental planning efforts will be approached in a programmatic fashion to cover the full PAWSS life cycle; including design, installation, operation and ultimate disposal. Disposition of the equipment and assets being replaced or upgraded by the PAWSS project may also be covered, as appropriate. Environmental planning efforts will identify and focus on both: (1) the most important environmental effects of the PAWSS project and (2) those environmental compliance requirements that will have the most bearing on the design, installation, operation and disposal of the system. The assessment of the importance of the environmental effects and compliance requirements, as well as the USCG intended treatment of those effects (if necessary), will be documented and coordinated with

other appropriate government agencies and interested parties. Environmental planning efforts will be performed in accordance with COMDTINST M16475.1B, National Environmental Policy Act (NEPA) Implementing Procedures.

Enclosure (1), Task Description Executive Summary, provides a summary of the Project's Task Commitment Memoranda. Enclosure (2), Master Schedule, provides a schedule of the entire Project. Enclosure (3) provides a project master milestone Gant Chart.

C. Technical Overview.

The VTS system acquired through the PAWSS project is a shore based navigation information system. It includes an operations center with surveillance sensors and communications networks at remote sites throughout its area of responsibility (AOR). The remote sites will be located in exposed, all-weather environments. The Vessel Traffic Centers (VTCs), which will be the operating center in each port, will be in an office environment with proper temperature and humidity controls for computers and electronic equipment. The VTCs may require a controlled environment room for computers, processors, etc. (air conditioned 24 hours.)

The system will maximize the use of Commercial Off-The-Shelf (COTS) equipment and software. The architecture will maximize the use of open systems and will use modular design to extend capabilities and accommodate the insertion of advanced technology in future increments. The system life cycle is fifteen years following the first port acceptance.

The new system shall include three system segments:

(1) Operational Segment
(2) Facilities Segment
(3) Support Segment

The Operational Segment provides the functionality to support the maritime community. This includes the following functional areas: automatic identification system (AIS), independent surveillance, operational data processing, decision support, communications, analysis, recording, and human-system interface (HSI). This segment also includes all systems providing communications between the VTC and remote sites, between the VTC and vessels, and between the VTC and other external users and systems.

The Facilities Segment consists of port facilities including the VTCs, communication sites, and remote sensor sites.

The Support Segment is composed of system administration and maintenance, and software development and maintenance for integration of COTS and new technology.

D. Resource Plan.

The Project Manager(PM) will be responsible for obtaining the resources needed to insure performance, schedule, and cost objectives are attained. Once resources are obtained, the PM will assure that these resources are used effectively and efficiently.

1. Personnel. The PAWSS Project personnel structure contains a mix of Project Staff and personnel from the matrix organization shown in enclosure (4) and includes:

TITLE	PAY GRADE	LOCATION	FY
Project Manager	O-6	G-AVT	97 + beyond
Dep Project Mgr.	GM-15	G-AVT	97 + beyond
Technical Leader	GS-14	G-AVT	97 + beyond
Electronics Engineer	GM-13	G-AVT	97 + beyond
Computer Specialist	GS-13	G-AVT	97 + beyond
Port Coordinator	GS-13	G-AVT	97 + beyond
Project Officer	O-4	G-AVT	97 + beyond
Financial Manager	GS-13	G-AVT	97 + beyond
Secretary	GS-8	G-AVT	97 + beyond
Contract Specialist	GS-12	G-ACS-4	97 + beyond
Electronics Tech	CWO4	G-SCE	97 + beyond
Comms Specialist *	GS-14	NTIA/G-SCT	97
Port Coordinator	O-4	MLCLANT	00
Civil Engineer	O-3	CEU Miami	00
Inventory Manager	GS-12	ELC	00

* 50% of the Communication Specialists services are funded with project funds.

All existing billets were in place prior to project reset (January 1997). Any ramp up or down in response to sponsor outreach discussions will be reflected in the update for KDP 4.

2. Financial

(1) Funding for the PAWSS acquisition is provided through the USCG's Acquisition, Construction and Improvements budget. The initial budget for the PAWSS Project was based on the estimates developed from the Phase I System Integration Contracts under VTS 2000. In FY 97, $1.0 million was provided for requirements' evaluation for VTS's. These funds are restricted in the future to outreach efforts to define specific VTS requirements in individual ports. The ACT allowed $545,000 to be reprogrammed from the VTS 2000 Project to the PAWSS Project to prepare a new

production program. The FY98 budget request of $5.5 million will provide funds to test the AIS concept and install the essential elements of a VTS in New Orleans

Table 2-1

AC& I FUNDING BY FISCAL YEAR

(Funding in Millions of $)

* Reprogrammed from VTS2000

(2) The Project Office will update cost projections prior to every KDP using: (1) analogy to recently installed VTS systems in addition to review/analysis of SIC vendor bids for Phase I of VTS 2000; (2) parametric models based on the proposed design such as the Price-S (software) parametric model widely used by industry, and (3) later in the project life by using engineering estimating tools and extrapolation from costs from early ports. An updated Cost Benefit Analysis (CBA) was constructed by analyzing both benefits and costs. Benefits were projected from the Port Needs Study with new refinements based on additional studies by the John Volpe Transportation Systems Center. Costs were estimated as previously stated.

(3) The System Integration contract will be for the installation a COTS system. Future funding estimates will be based on the installation of the initial new VTS system.

(4) Life Cycle Costs. The Life Cycle Cost Estimate (LCCE) projects the costs for a representative Vessel Traffic Center and sensor-based system in a hypothetical port. The LCCE is based on program objectives, operational and support requirements, and contract specifications for the system. The LCCE identifies all elements of cost that are required for a decision to proceed with development, production, operation, and support of the PAWSS project. By KDP 4, we expect the sponsor will complete discussion with port stakeholders in all potential ports. As the local support and funding of additional ports are identified, they will be added to the PAWSS project. The LCCE will be updated at that time to include all the ports considered for AIS based VTS systems.

CHAPTER 3. PROJECT MANAGEMENT STRUCTURE.

A. Project Organization.

The Project Manager is empowered and accountable by the project charter, the Government Performance and Results Act (GPRA) (to emphasize results oriented management), and the Information Technology Management Reform Act of 1996 to "meet performance, schedule, and cost objectives" for the PAWSS project. Project management requires the conduct of a range of activities across the organizational boundaries of the Department of Transportation, Coast Guard, various other agencies, and Congress. Within the Coast Guard, the PM manages the project activity through a matrix organization. The PM will coordinate any activity external to the Coast Guard with appropriate headquarters staffs.

B. Matrix Organization.

The matrix organization consists of Headquarters offices and/or divisions and field organizations designated to provide technical guidance and support for project task completion. As technical experts in their fields, they are responsible to assure the completion of all tasks that fall within their functional areas. Task Leaders will be appointed by their supervisors who will commit to accomplish project tasks within time, cost, and performance constraints. Task leaders are responsible to the PM via their functional supervisor for information flow, resource requirements, project issues, status reporting and conflict resolution. The matrix organization for the PAWSS project is shown in enclosure (4).

Matrix organizations as well as external organizations and contractors involved in either the planning, implementation, or support of the PAWSS project include:

Function	Organization
• Program Manager (Sponsor's Representative)	Marine Safety and Environmental Protection, Office of Vessel Traffic Management (G-MOV)
• Project Manager	Acquisition, Vessel Traffic Service Project (G-AVT)
• Project Technical; computers, communications, electronics related areas	Systems, Office of Electronics Systems (G-SCE) and Office of Communications Systems (G-SCT)

Function	Organization
• Contracting Support	Acquisition, Major Systems Contract Division (G-ACS-4)
• Legal	Chief Counsel, Office of Procurement Law (G-LPL)
• Independent Verification and Validation (IV&V) (software review and evaluation)	IV&V Contractor (SETA)
• System Engineering; combined with IV&V contract to include development and planning in such areas as system design, acquisition, software, integration and schedule.	System Engineer (SETA)
• Inputs on requirements and providing Independent Operational Testing Oversight to the project.	The Port stakeholders, District Offices, Captain of the Ports
• System Development, integration, initial operational capability, and support.	The System Integration Contractor (and Subcontractors)
• Project Human Performance; human factors, support technologies, personnel, safety.	Human Resources, Human Systems Integration (G-WR)
• System Safety	Safety, Security, and Environmental Health(G-WKS)

C. Review Boards/ Management Teams. The PAWSS Project will also be supported by Integrated Product Teams (IPTs) which have been established to support the Project planning and acquisition process. The IPT's are:

1. The **Integrated Logistics Support Management Team (ILSMT)** was formed to plan the Logistics support posture for the PAWSS project and to influence the design parameters so that the end product is supportable. The Integrated Logistics Support Plan (ILSP) describes the members, duties and responsibilities of the ILSMT.

2. The **Test Management Oversight Team (TMOT)** were formed to plan and administer the Test and Evaluation program for the PAWSS project. Permanent

members consist of representatives from G-AVT, G-MOV, G-SCE, G-SCT, G-A-3. G-A-2 will serve as advisor. Other matrix members and contractors will participate on an ad hoc basis as needed.

3. The **Configuration Control Board** was formed to establish baselines and to perform reviews of Engineering Change Proposals (ECPs). Membership consists of both voting and non-voting permanent members. Other matrix members and contractors will participate on an ad hoc basis depending on the circumstances. The Configuration Management Plan (CMP) describes specific membership, duties and responsibilities for the Board.

4. **Site Acquisition Teams (SATs)** are formed to plan and coordinate the acquisition and implementation of each VTC site and remote sites. Members represent G-AVT, G-MOV, G-SCE, G-SEC, MLCLANT, CEU MIAMI, and System Engineer (SE). The SIC will be added after contract award. G-LPL will serve as advisor and will coordinate the services of other legal offices.

5. A **Risk Management Steering Group** was established to formulate program planning in such areas as risk management, software management, project planning, and overall schedule and cost. The steering group will monitor risk throughout the project. The Risk Management Plan describes the specific membership, duties, and responsibilities of the Steering Group.

A Project Resident Office (PRO) will not be established for the PAWSS project. USCG Headquarters contracting personnel will be used to fulfill the functions required for Contract Administration Services. Technical, Logistics, Configuration Management, Contract Monitoring, etc. Functions normally fulfilled by a PRO for Coast Guard acquisitions will be fulfilled by the staff supporting the Project Manager. The USCG also has contracted with a System Engineering (SE) contractor to provide project support services. Organizational relationships are shown in Enclosure (4).

D. <u>Required Reports.</u>

1. Internal Reports. G-AVT personnel submit weekly status reports to G-AVTd and G-AVT. Minutes of PAWSS Program Status Reviews are transmitted via EMAIL to all team members. Status reports will be required by support organizations, including IPTs, after all meetings and semi-annually.

2. External Reports. The Project Manager is responsible for providing G-A with weekly status briefs during staff meetings, monthly Project Status Reports, monthly document status, and a quarterly report to Congress. G-A uses these reports to develop the Program Director's Key Issues, Commandant Issues, and Department of Transportation Secretary Issues. Semiannual briefs for the Office of the Secretary of Transportation and senior Coast Guard management are held routinely.

CHAPTER 4. DETAILED PLANNING DOCUMENTS.

A. Test And Evaluation Master Plan (TEMP).

1. General. The TEMP provides and describes the management organization and methods that will be used to execute system test and evaluation (T&E). The TEMP describes general guidelines for the preparation of specific plans, reporting requirements, required resources, logistics, tasks, and organizational responsibilities for the T&E reviews. The TEMP also describes the roles that the SIC, the Coast Guard, SE, and the IV&V contractor will assume during the testing process.

2. Developmental Test and Evaluation (DT&E). DT&E will be iterative throughout the incremental build approach. Since the initial system installation will be a commercially available system, the SIC's DT&E Plan will focus on acceptance of the system in the first port. This will include an evaluation of Automatic Identification System (AIS) performance at a remote location in the port. DT&E will be accomplished for system improvements both within the PAWSS contractor's facilities and at the site prior to operational testing.

3. Operational Test and Evaluation (OT&E). OT&E will occur iteratively after successful completion of DT&E for the corresponding increment. Testing will be in accordance with the OT&E Plan and performed by an assembled sponsor team. The sponsor's representative (G-MOV) will be responsible for the OT&E Plan that will state specific roles of all parties. This will consist of operational testing of all functional capabilities at the Vessel Traffic Center. Further OT&E will be performed for system improvements.

4. Independent Operational Testing Oversight. In addition to the sponsor, local maritime and port representatives from the LMRWSAC will serve the role of an independent testing organization to provide oversight of the process and outcomes.

5. The TEMP will be submitted for approval following the TSARC meeting for KDP 2/3.

B. Configuration Management Plan (CMP).

1. The CMP provides Configuration Management (CM) instructions and guidance for the PAWSS project. The CMP describes in detail the duties of the Configuration Control Board (CCB). The PAWSS contractor will provide its own configuration management system to work in conjunction with the Coast Guard's CCB. All changes to configuration items during the course of the system development will be approved by the Coast Guard.

2. The CMP will be submitted for approval following the TSARC meeting for KDP 2/3.

C. Integrated Logistics Support Plan (ILSP).

1. The PAWSS Integrated Logistics Support Plan (ILSP) addresses all of the ten standard Integrated Logistics Support elements, as well as the associated elements of Safety, Configuration Management, Quality Assurance, Reliability and Maintainability, Human Factors, and Life Cycle Costs.

As the VTS system is projected to be composed primarily of off-the-shelf (OTS) items, the drawings to be procured will provide interface and installation information for the system (as opposed to procuring individual equipment drawings).

A training program will be established; it's scope and any related facilities are to be determined by the program sponsor in accordance with COMDTINST 1550.9 (series)

System maintenance will be contracted. The USCG may assume the maintenance function at some future date.

Commercial documentation will be acquired for the system and COTS components; digital (electronic) format is preferred.

2. The ILSP will be submitted for approval following the TSARC meeting for KDP 2/3.

TASK DESCRIPTION EXECUTIVE SUMMARY
CONTRACT MANAGEMENT TASKS

No.	Task	Organization	Status
1.	**VTS Technology Symposium**		
1a.	CBD Announcement	AVT,ACS-4,LPL	Completed
1b.	Organize, Host	AVT	Completed
1c.	Document	AVT,ACS	Completed
2.	**RTCM Conference**		
2a.	Pre-Conference Preps	AVT, MOV	Completed
2b.	Attend	AVT, MOV, SE, SCE,ACS	Complete
2c.	Document	AVT,ACS	Completed
3.	**RFP**		
3a.	Draft Specification Published	AVT,MOV,ACS,LPL,SCE,SE	Completed
3b.	NOLA Review	AVT,MOV	Completed
3c.	Draft RFP Published	AVT,MOV,ACS,LPL, SE,SCE	Completed
3d.	NOLA Review Draft RFP	AVT, MOV	In-Process
4.	**System Demonstrations**		
4a.	CBD Announcements	AVT,ACS,MOV	Completed
4b.	Foreign Travel Approvals	AVT,MOV, SCT,ACS,A	Completed
4c.	Coordinate Scheduling	AVT	Completed
4d.	Attend Demonstrations	AVT,ACS,MOV,SCT	In-Process
4e.	Document	AVT,ACS	Planned
5.	**Issue Solicitation - SIC**		Planned
5a.	Complete Final RFP	ACS,AVT,LPL,MOV,SE	Planned
5b.	Receive Funding	Congress, CBU	Planned
5c.	CBD Announcement	ACS,LPL,AVT	Planned
6.	**Proposal Eval & Award - SIC**	ACS,AVT,MOV,SCT,SCE LPL,CFP,CFM,	Planned
7.	**Transponder Purchase**		
7a.	Prepare Bid Documents	ACS,AVT,LPL,SE	In-Process
7b.	Advertise and Award	ACS	Planned
8.	**Communications Upgrade**		
8a.	Prepare Bid Documents	ACS,AVT,LPL,SE	In-Process
8b.	Advertise and Award	ACS	Planned

9.	**AIS Evaluation - Gretna**		
9a.	Negotiate & Award Task Order	ACS,AVT,SE	Planned
9b.	Monitor Performance	ACS,AVT,SE	Planned
9c.	Equipment Test/Accept	AVT,SE,MOV, Stakeholders	Planned
9d.	AIS Testing	AVT,SE,MOV, Stakeholders	Planned
10.	**Prepare VTC**		
10a.	Lease Space	AVT,MOV,CEU Miami	In-Process
10b.	Build-out Spaces	AVT, CEU Miami	Planned
11.	**VTC Installation**		
11a.	Negotiate and Award Task Order	ACS,AVT,SE	Planned
11b.	Monitor Performance	ACS,AVT,SE	Planned
11c.	DT&E/Acceptance	AVT,MOV,SE, Stakeholders	Planned
11d.	OT&E	MOV,Stakeholders	Planned
12.	**Independent Surveillance**		
12a.	Negotiate and Award Task Order	ACS,AVT,SE	Planned
12b.	Monitor Performance	ACS,AVT,SE	Planned
12c.	DT&E/Acceptance	AVT,MOV,SE, Stakeholders	Planned
12d.	OT&E	MOV, Stakeholders	Planned
13.	**System Improvement**		
13a.	Negotiate and Award Task Order	ACS,AVT,SE	Planned
13b.	Monitor Performance	ACS,AVT,SE	Planned
13c.	DT&E/Acceptance	AVT,MOV,SE, Stakeholders	Planned
13d.	OT&E	MOV, Stakeholders	Planned
14.	**Task Order Second Port**	ACS,AVT,MOV,SE	Planned

Enclosure (1a)

TASK DESCRIPTION EXECUTIVE SUMMARY
PROJECT MANAGEMENT TASKS

No.	Task	Organization	Status
1.	**Project Reset**		
1a.	Memo To OST	AVT,MOV,A,M,CV,CCS	Complete
1b.	TSARC Brief	AVT,A,M,CV,CCS	Complete
2.	**National Dialogue**		
2a.	Preparations	MOV,AVT	Complete
2b.	Host and Attend	MOV,AVT,SE,Stakeholders	Complete
2c.	Document	MOV	Complete
2d.	Provide Report to Congress	C,CCS,M,MOV	Complete
3.	**New Orleans Requirements**		
3a.	Preparations	D8,MOV,AVT	Complete
3b.	Attend	MOV,AVT	Complete
3c.	Provide Report To Congress	C,CCS,M,MOV	Complete
4.	**Mission Needs Statement Update**		
4a.	Revise Document	MOV	Complete
4b.	Concurrent Clearance	A,S,O,M,CRC,L,W	In-Process
4d.	Incorporate Comments	MOV	In-Process
4e.	Approve	CCS,CV,OST (S-2)	Planned
5.	**Operational Requirements Document**		
5a.	Prepare Document	MOV	Complete
5b.	Concurrent Clearance	A,S,O,M,CRC,L,W	In-Process
5c.	Incorporate Comments	MOV	In-Process
5d.	Approve	CCS	Planned
6.	**Acquisition Plan**		
6a.	Prepare Document	ACS,AVT,SE	
6b.	Concurrent Clearance	ACS,A-2,MOV,CPM,CPA,	Complete
6c.	Incorporate Comments	ACS,AVT	In-Process
6d.	Approve	CCS,CV,OST (S-2)	In-Process

7.	**Project Management Plan**		
7a.	Prepare Document	AVT	
7b.	Concurrent Clearance	MOV,SCE,SCT,SEC,SLP,ACS,A-2,A-3, LPL.CPA.WKS,WR,WTT,CPM	In-Process
7c.	Incorporate Comments	AVT	In-Process
7d.	Approve	CCS	Planned
8.	**Risk Management Plan**		
8a.	Prepare Document	AVT,SE	Completed
8b.	Concurrent Clearance	MOV,ACS,SCE,SCT,LPL,CPA,A-2	In-Process
8c.	Incorporate Comments	AVT	In-Process
8d.	Approve	A	Planned
9.	**Test and Evaluation Master Plan**		
9a.	Prepare Document	AVT,SE,TMOT	Completed
9b.	Concurrent Clearance	MOV,SCE,SCT,A-2,A-3,ACS,LPL,CPA	In-Process
9c.	Incorporate Comments	AVT	In-Process
9d.	Approve	CCS,CV	Planned
10.	**ILSP**		
10a.	Prepare Document	AVT	Completed
10b.	Concurrent Clearance	MOV,SCE,SCT,SLP,SEC,ACS,A-2,LPL WKS,WR,WTT,CPA	In-Process
10c.	Incorporate Comments	AVT	In-Process
10d.	Approve	CCS	Planned
11.	**Configuration Management Plan**		
11a.	Prepare Document	AVT	Completed
11b.	Concurrent Clearance	MOV,SCE,SCT,SLP,ACS,A-2,WKS,WR WT,CPA,LPL	In-Process
11c.	Incorporate Comments	AVT	In-Process
11d.	Approve	A	Planned
12.	**Acquisition Project Baseline**		
12a.	Prepare Document	AVT	Completed
12b.	Concurrent Clearance	MOV,A-2,CPM,CPA	In-Process
12c.	Incorporate Comments	AVT	In-Process
12d.	Approve	S-2	Planned

13.	**Life Cycle Cost Estimate**		
13a.	Prepare Document	AVT	Completed
13b.	Concurrent Clearance	MOV,ACS,A-2,CPA,SCE,SCT	In-Process
13c.	Incorporate Comments	AVT	In-Process
13d.	Endorsed	CCS	Planned
14.	**Cost Benefit Analysis**		
14a.	Prepare Document	AVT	Completed
14b.	Concurrent Clearance	MOV,ACS,A-2,CPA,SCE,SCT	In-Process
14c.	Incorporate Comments	AVT	In-Process
14d.	Endorsed	CCS	Planned
15.	**Phase Summary**		
15a.	Prepare Document	AVT	Completed
15b.	Concurrent Clearance	MOV,ACS,A-2,CPA	In-Process
15c.	Incorporate Comments	AVT	In-Process
16.	**Exit Criteria**		
16a.	Prepare Document	AVT	Completed
16b.	Concurrent Clearance	MOV,ACS,A-2,CPA	In-Process
16c.	Incorporate Comments	AVT	In-Process
16d.	Approve	S-2	Planned
17.	**CGARC**		
17a.	Prep Documents for CGARC	AVT,A-2	In-Process
17b.	Prepare Briefing	AVT,MOV	In-Process
18.	**KDP 2/3**		
18a.	Package To OST	A-2	Planned
18b.	Brief TSARC	AVT,MOV,CV,CCS,M,A	Planned
18c.	Acquisition Decision Memo	OST (S-2)	Planned
19.	**Port Discussions**		
19a.	Prepare Plans	MOV	In-Process
19b.	Advise Field	MOV	In-Process
19c.	Hold Discussions	MOV,Districts, COTPs	In-Process
19d.	Identify Ports for VTS	MOV	In-Process
20.	**Environmental Planning**	MOV,AVT	Planned
21.	**DT&E Plan**	AVT	Planned
22.	**OT&E Plan**	MOV	Planned
23.	**Contract Management**	AVT	Planned

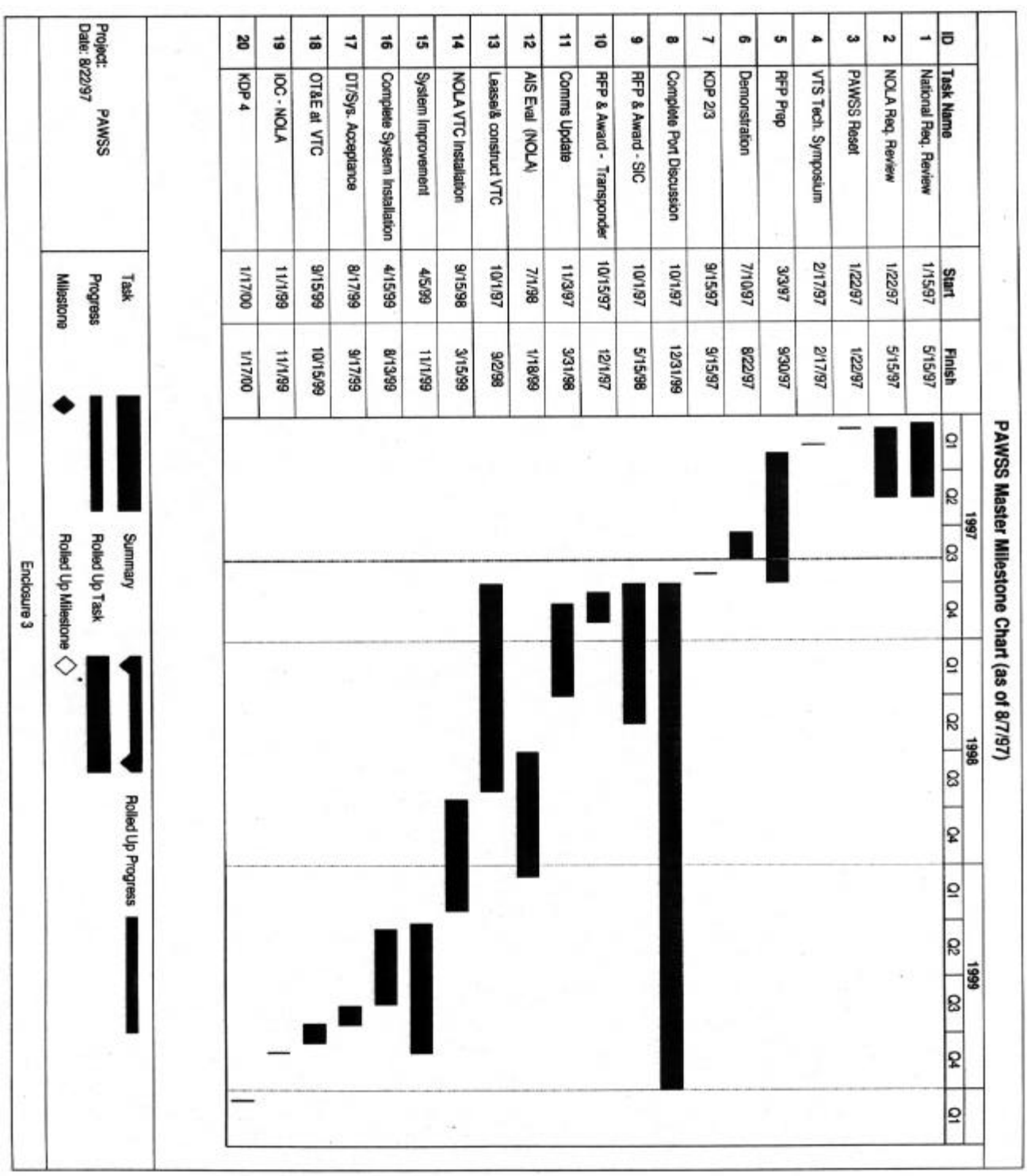
Enclosure (1b)

ENCLOSURE (2) Master Schedule.

EVENT	FY DATE
Key Decision Point (KDP) 1 (VTS 2000)	JUL 92
Mission Needs Statement Approved	JUL 92
Acquisition Plan Approved for VTS 2000	MAR 93
PORD Complete (VTS 2000)	APR 94
KDP 2 (VTS 2000)	JUN 94
Award Competitive Phase I SIC Contracts(VTS 2000)	APR 96
VTS 2000 ended	OCT 96
PAWSS Reset TSARC	JAN 97
VTS Technology Symposium	FEB 97
System Demonstrations	JUL 97
Draft RFP	AUG 97
Acquisition Plan Approved	AUG 97
Risk Mgmt Plan Approved	AUG 97
Configuration Mgmt Plan Approved	AUG 97
Integrated Logistics Support Plan Approved	AUG 97
Test And Evaluation Master Plan Approved	Aug 97
Life Cycle Cost Estimate Approved	AUG 97
Cost Benefit Analysis Approved	AUG 97
Mission Needs Statement Update Approved	SEP 97
ORD Approved	SEP 97
KDP 2/3 (PAWSS)	SEP 97
Release RFP for SIC	OCT 97
Release RFP for Transponders	OCT 97
Communications Coverage Update	NOV 97
Award PAWSS SIC Contract	MAY 98
Begin Installation- First Port	AUG 98
AIS Evaluation- First Port	NOV 98
Install System In VTC	FEB 99
Install Remaining Independent Surveillance	MAY 99
System Improvement Phase I	JUN 99
DT&E Acceptance Testing	AUG 99
OT&E	SEP 99
IOC First Port	NOV 99
Complete Port Discussions	FY00
KDP 4	FY00
DT&E System Improvements Phase I	FY00
Install Second Port	FY00
Environmental Planning	FY01
IOC Next Port	FY01

Project Complete	FY05

(Enclosure 3)
(Master Milestone Chart)



PAWSS Master Milestone Chart (as of 8/7/97)

ID	Task Name	Start	Finish
1	National Req. Review	1/15/97	5/15/97
2	NOLA Req. Review	1/22/97	5/15/97
3	PAWSS Reset	1/22/97	1/22/97
4	VTS Tech. Symposium	2/17/97	2/17/97
5	RFP Prep	3/3/97	9/30/97
6	Demonstration	7/10/97	8/22/97
7	KDP 2/3	9/15/97	9/15/97
8	Complete Port Discussion	10/1/97	12/31/99
9	RFP & Award - SIC	10/1/97	5/15/98
10	RFP & Award - Transponder	10/15/97	12/1/97
11	Comms Update	11/3/97	3/31/98
12	AIS Eval (NOLA)	7/1/98	1/18/99
13	Lease/& construct VTC	10/1/97	9/2/98
14	NOLA VTC Installation	9/15/98	3/15/99
15	System Improvement	4/5/99	11/1/99
16	Complete System Installation	4/15/99	8/13/99
17	DT/Sys. Acceptance	8/17/99	9/17/99
18	OT&E at VTC	9/15/99	10/15/99
19	IOC - NOLA	11/1/99	11/1/99
20	KDP 4	1/17/00	1/17/00

1997 Q1 Q2 Q3 Q4 | 1998 Q1 Q2 Q3 Q4 | 1999 Q1 Q2 Q3 Q4 | Q1

Project: PAWSS
Date: 8/22/97

Task
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Milestone
Rolled Up Progress

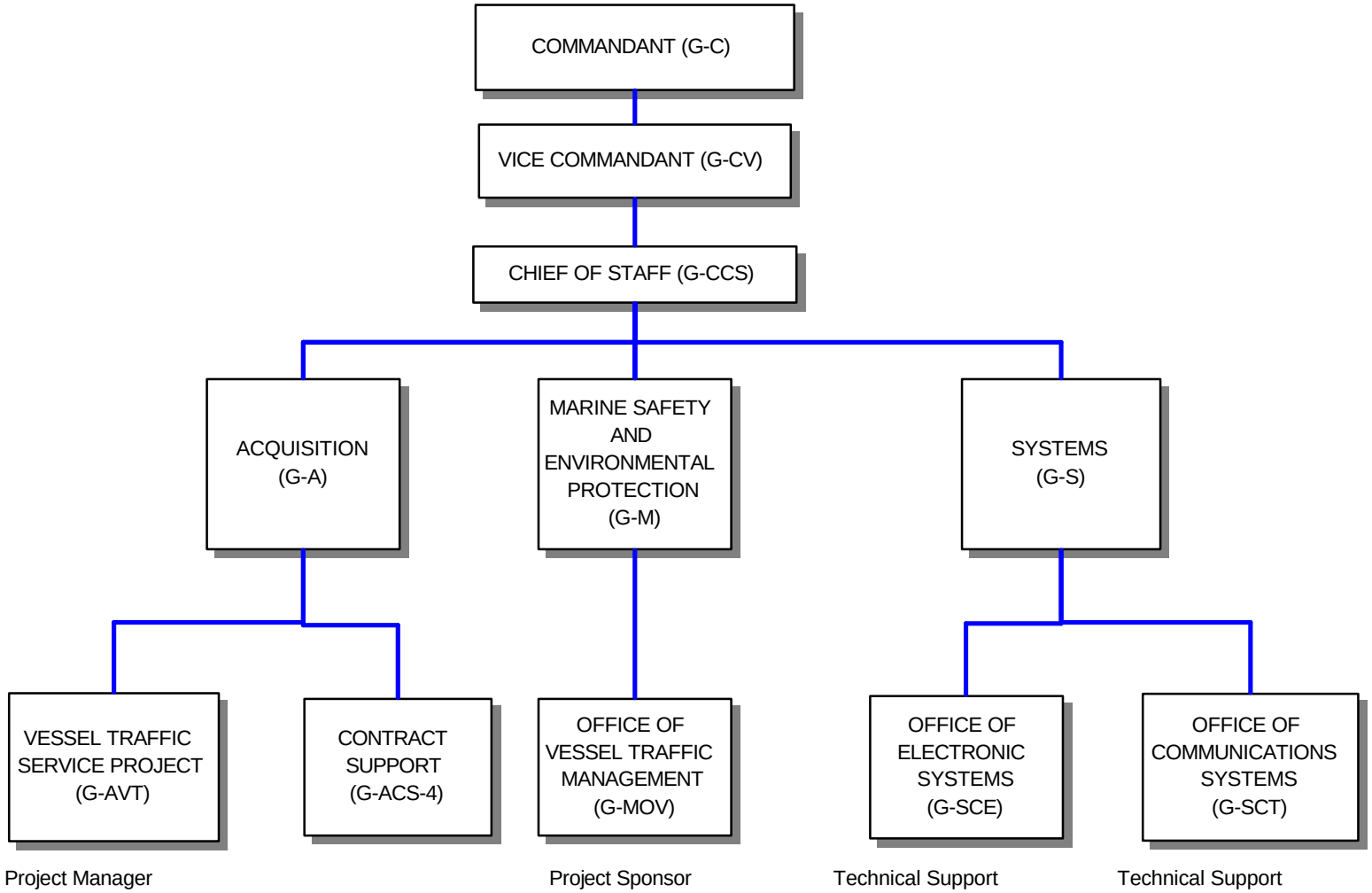
Enclosure 3

ENCLOSURE (4) Organization - Primary Contacts

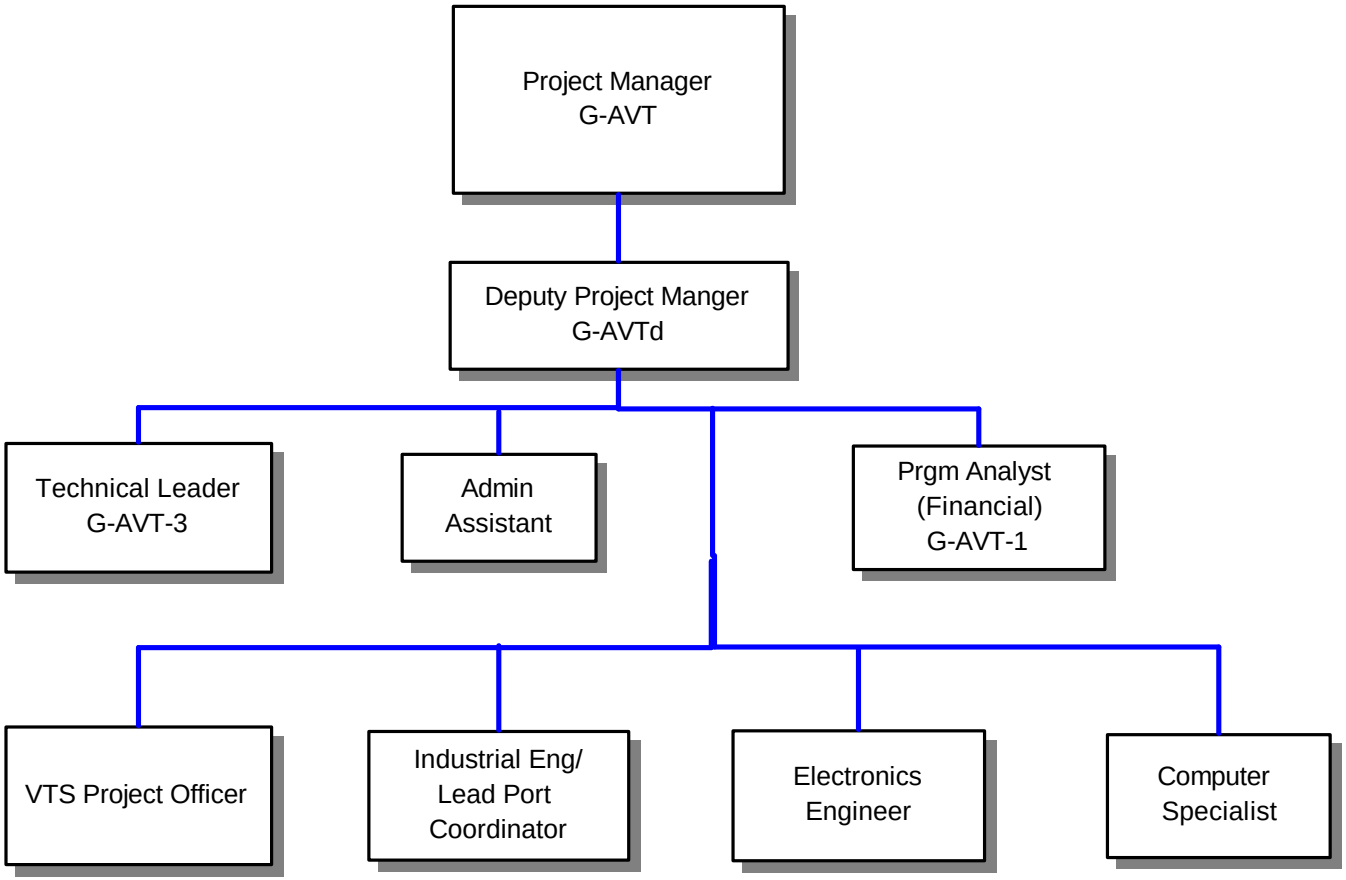
Person	Activity	Function
CAPT Dan Farrell	G-AVT	Project Manager
Sandra Borden	G-AVTd	Project Deputy
CAPT Bob Ross	G-MOV	Sponsor's Representative
Mike Sollosi	G-MOV	Sponsor's Representative
CDR Ken Prime	G-MOV	Sponsor's Representative
CAPT Gerry Bowe	G-SCE	Technical
CAPT Rick Hartman	G-SCT	Technical
Westley Wright	G-A-3	Quality Assurance
Catherine Martindale	G-ACS-4	Contracting Officer
Kenneth Fujishiro	G-SEC	Facilities
David Reese	G-SEC-3	NEPA, Environmental Issues
Tom Herbert	G-SLP	Logistics Management
Shirley Knight	G-A-2	Acquisition Policy
Benny Smith	G-WKS-2	System Safety
Talbot Nicholas	G-LPL	Legal Staff
Tony Cavalhais	G-WKS-3	Human Factors Division
CDR Kurt Wellington	G-WR-2	Manpower and Personnel Analysis/HSI
LCDR Marilyn Stoney	G-WTT	Training
LCDR Dave Williams	G-WTT-1	Training
Various	Ports	Requirements
CAPT Scott Kaiser	MLCA	Technical
CDR Dale Walker	CEU MIAMI	Civil Engineering
Steve Robinson	FEDSIM	Logistics Support
Steve Giorgis	SETA	System Engineer
Ray Baldwin	SETA	System Engineer
Edward Coyne	SETA	Independent Verification and Validation (IV&V)
CAPT Paul Miller	C2CEN	Project Support

List effective 7 July 97. Personnel subject to replacement due to transfer or change of job assignment.

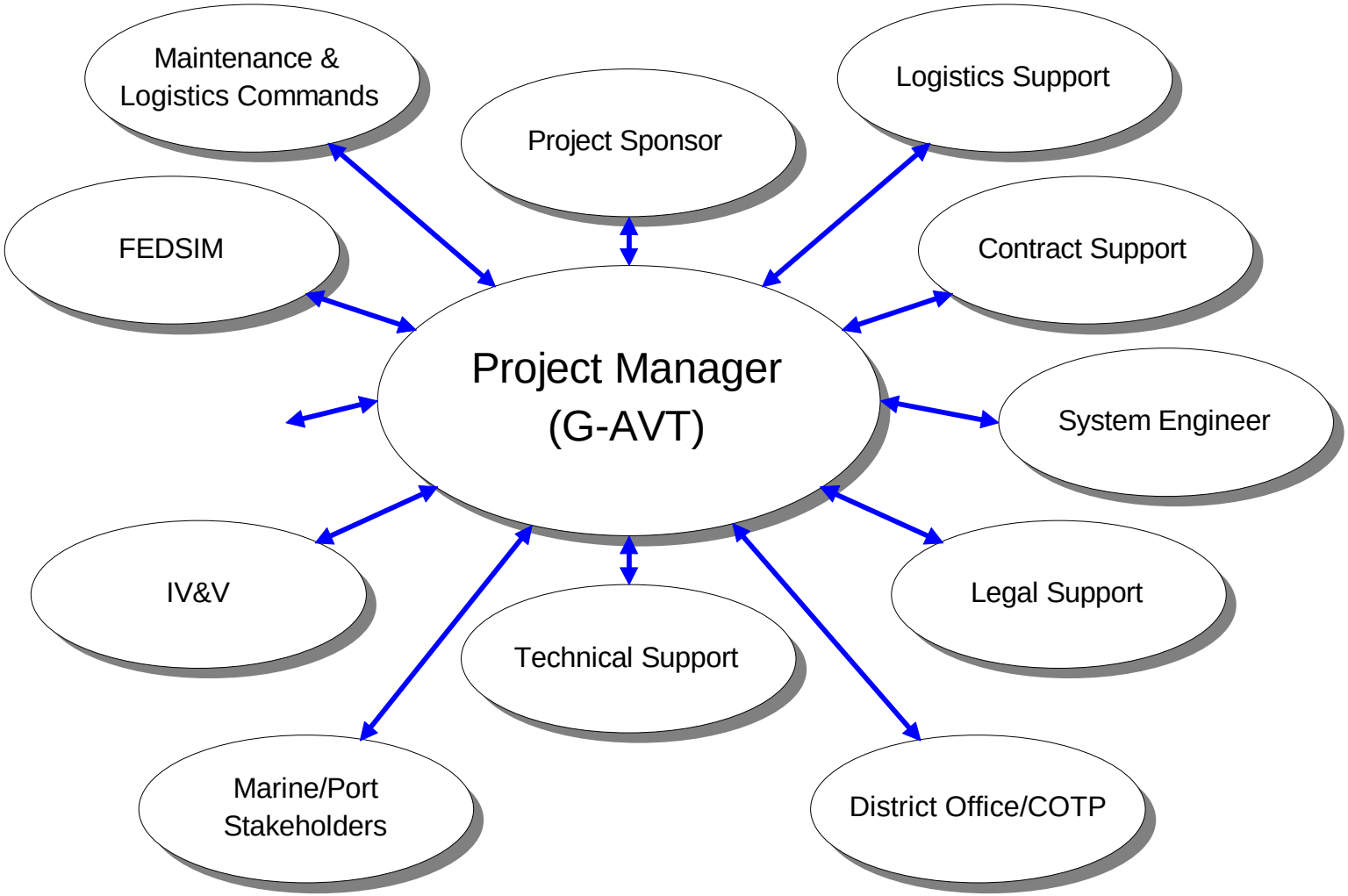
Vessel Traffic Services Project Organization for PAWSS Project



Vessel Traffic Services Project Organization for PAWSS Project



Vessel Traffic Services Project Organization for PAWSS Project



APPENDIX (A) - ACRONYMS AND ABBREVIATIONS

AA Analysis of Alternatives
AAE Administration Acquisition Executive
AC&I Acquisition, Construction, & Improvement
ACO Administering Contracting Officer
ACT FY 97 DOT and Related Agencies Appropriate Act and Conference report
AIS Automated Identification (of Ships) System
AP Acquisition Plan
APB Acquisition Project Baseline
APS Acquisition Phase Summary
CBA Cost Benefit Analysis
CCB Configuration Control Board
CEU Civil Engineering Unit
CG Coast Guard
CM Configuration Management
CMP Configuration Management Plan
COTS Commercial Off-The-Shelf
DSC Digital Selective Calling
DOT Department of Transportation
DT&E Developmental Test & Evaluation
ECP Engineering Change Proposal
ELC Engineering Logistics Center
FEDSIM Federal Systems Integration and Management Center
GAO VS General Accounting Office
GPRA Government Performance and Results Act
HSI Human Systems Interface
ILSMT Integrated Logistics Support Management Team
ILSP Integrated Logistics Support Plan
IOC Initial Operational Capability
IPT Integrated Product Team
IV&V Independent Verification and Validation
KDP Key Decision Point
LCCE Life Cycle Cost Estimate
LMRWSAC Lower Mississippi River Waterway Safety Advisory Committee.
MLC Maintenance and Logistics Command
MLCLANT Maintenance and Logistics Command, Atlantic
MNS Mission Need Statement
OCD Operational Concept Document
OPD Operating Program Director
OPM Operating Program Manager

ORD	Operational Requirements Document
OT&E	Operational Test and Evaluation
OTS	Off-The-Shelf
PAWSS	Ports and Waterways Safety System Project
PD	Project Director
PDR	Preliminary Design Review
PM	Project Manager
PMP	Project Management Plan
PORD	Preliminary Operational Requirements Document
PRO	Project Resident Office
QA	Quality Assurance
RA	Requirements Analysis
RFP	Request For Proposal
RTCM	Radio Technical Commission for Maritime Services
SE	System Engineer
SIC	System Integration Contractor
SPD	Support Program Director
SPM	Support Program Manager
T&E	Test and Evaluation
TEMP	Test and Evaluation Master Plan
TMOT	Test Management Oversight Team
TSARC	Transportation Systems Acquisition Review Council
USCG	United States Coast Guard
VHF	Very High Frequency
VTC	Vessel Traffic Center
VTS	Vessel Traffic Service

APPENDIX (B) - REFERENCE DOCUMENTS

COMDTINST 15590.9, Management of the Coast Guard's Training System, 12 Aug 91

COMDTINST M4150.2D, Systems Acquisition Manual, 27 Dec 94

COMDTINST M5400.7E, Organization Manual, 22 Oct 93

Port Needs Study (Vessel Traffic Services Benefits):
Study Overview, Aug 91
Vol I: Study Report, Aug 91 [Report #DOT-CG-N-01-91-1.2] [308 pgs]
Vol II: Appendices, Part 1, Aug 91 [Report #DOT-CG-N-01-91-1.3, Part 1] [1024 pgs]
Vol II: Appendices, Part 2, Aug 91 [Report #DOT-CG-N-01-91-1.3, Part 2] [924 pgs.]
Vol III: Technical Supplement, Aug 91 [Report #DOT-CG-N-01-91-1.4] [714 pgs]

Project Manager Charter - VTS Project (COMDT (G-AT) memo 5200 of 22 Dec 95

GAO Report to Congress (MARINE SAFETY: Coast Guard Should Address Alternatives As It Proceeds With VTS 2000): April 1996.

Marine Board of the National Research Council Interim Report ("Vessel Navigation and Traffic Services for Safe and Efficient Ports and Waterways"): June 1996

Vessel Traffic Services Acquisition Project Reset (COMDT (G-AVT) memo 16630 of 22 Jan 97).

Ports and Waterways Safety System (OST (S-2) memo of 19 Feb 97).

PROJECT DOCUMENTS:

Acquisition Plan (AP), (SEP 97)
Acquisition Project Baseline (APB), (AUG 97)
Analysis of Alternatives (AA), 21 Mar 94
Configuration Management (CM) Plan, (AUG 97)
Cost Benefit Analysis (CBA), (AUG 97)
Exit Criteria, (AUG 97)
Integrated Logistics Support Plan (ILSP), (AUG 97)
Life Cycle Cost Estimate, (AUG 97)
Mission Need Statement (MNS), 24 Jul 92 (re-certified AUG 97)

Operational Requirements Document (ORD), (AUG 97)
Phase Summary, (AUG 97)
Project Management Plan (PMP), (AUG 97)
Project Manager (PM) Charter, 09 Jan 92 (reissued 22 Dec 95)
Requirements Analysis (RA), 25 Feb 94
Risk Management Plan (RMP), (AUG 97)
Test and Evaluation Master Plan (TEMP), (AUG 97)

LOG OF PMP CHANGES

06/28/97	Edits made per CAPT Farrell for correctness.
07/03/97	Edits made for correctness, typos, and format per S. Borden. Incorporates comments from **G-LPL, G-WR-2, AND G-SEC**
07/07/97	Edits made per CAPT Farrell, incorporates comments from **G-CPA**
07/07/97	Edits made per CAPT Farrell, incorporates comments from **G-MOV**
07/07/97	Edits made per CAPT Farrell, incorporates comments from **G-A-2 +** more **G-AVT** comments
07/08/97	Edits per **G-ACS-4 T.B.** via CAPT Farrell
07/08/97	Edits per CAPT Farrell of comments from collective **G-S**
07/09/97	Final edits per CAPT Farrell